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ABSTRACT

A history of Chelmsford, Massachusetts, from 1655 to 1970 is presented. Written as an historiography exercise by students at Chelmsford High School, the study is intended to acquaint residents and students of Chelmsford with the town's past and its relationship with surrounding communities and the United States. Chapter one, "A Colonial Settlement Develops," describes geographic features and records Chelmsford's economic, political, and social development into a typical Puritan community. Chapter two, "Chelmsford Prepares for Independence," provides information on the town's prerevolutionary political activities and on its war experience. Chapter three, "Chelmsford at the Edge of Industrial America," chronicles the town's economic development during and immediately following the Civil War, at which time Chelmsford lost much of its most promising industry to larger towns. Chapter four, "Twentieth Century Chelmsford," describes the town's "coming of age" with the post World War II growth in defense and space industries. The authors conclude that Chelmsford presently is a mature suburban community facing the continuing task of preserving and improving its quality of life. A postscript, bibliography, and summaries of each chapter are included. (Author/DB)

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FROM SETTLEMENT TO SUBURBIA
A NEW HISTORY OF CHELMSFORD

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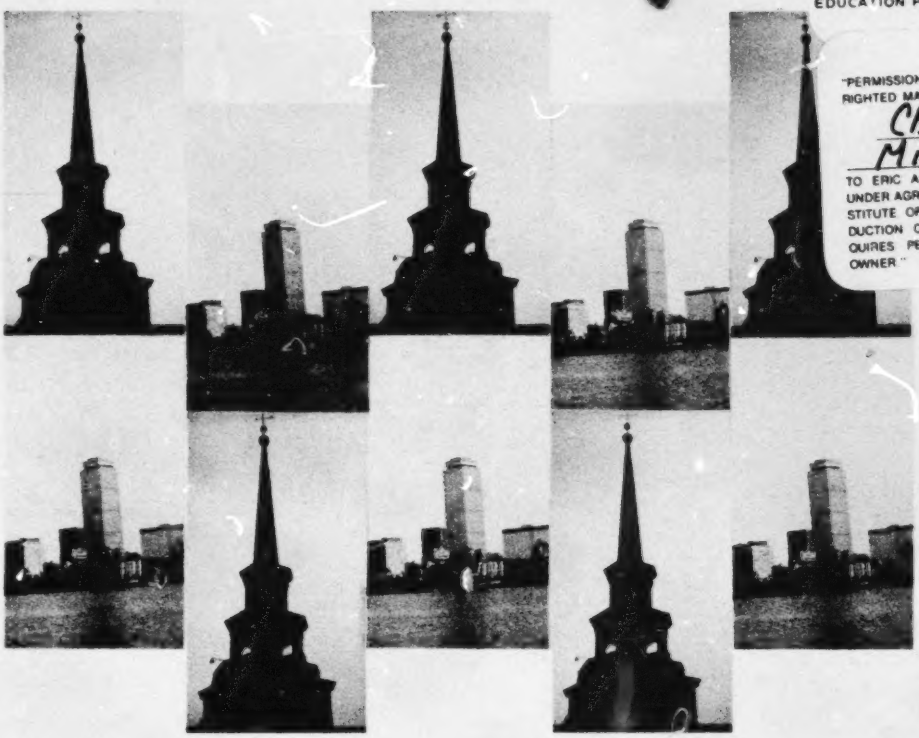

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DeVita · Larose · Milam · Riley
with Leclerc and Mitsakos

FROM SETTLEMENT TO SUBURBIA
A NEW HISTORY OF CHELMSFORD

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PREFACE

From Settlement to Suburbia: A New History of Chelmsford was written by four students enrolled in the United States History Seminar course for the 1975-1976 school year at Chelmsford High School. The main objective of this course was to instruct students in the skills of writing history. These skills, such as researching different materials and drawing and backing theories and conclusions, were stressed in hopes that someday they would utilize this knowledge. This goal and much more has been fulfilled with this book. In addition to the actual research and writing, the four students displayed their individual strengths by proof-reading, correcting and organizing their work in a chronological order. The students also gained personal experience in working alone and as a group on a single project. The result of all of this time and effort you now hold in your hands.

The purpose of this history is to acquaint the residents and students of Chelmsford with an idea of this town's past as an individual town as well as how it related to the communities surrounding it and to the United States as a whole. Various parallel social, political and economic events have taken place and are presently taking place in towns and cities across the nation and Chelmsford is no exception. It is in this vein that From Settlement to Suburbia: A New History of Chelmsford was written.

I

A COLONIAL SETTLEMENT DEVELOPS

CHELMSFORD

Scale 200 Rods to the inch
TYNGSBOROUGH
DRACUT
MERRIMACK RIVER
MIDDLESEX VILLAGE P.O.
CHELMSFORD P.O.
NORTH CHELMSFORD P.O.
J. Parkhurst
J. Reed
Wm Manning
Rocky Hill
CARLISLE

The Topographical Features of Chelmsford

Chelmsford (commonly pronounced "CHEMZ-ford") is situated 23 miles northwest of Boston in Middlesex County, Massachusetts.

Incorporated in 1655, the town has many interesting topographical features. The highest point is Robin's Hill, so named because tradition said that the first cultivator of the area belonged to the Robin family of the Pennacook Indians. This hill became an important geographical feature of the area because, it was said, the pine tree that once grew at its summit was the first view of land sighted by sailors entering Boston Harbor. It also commanded a wide view of the surrounding area, not a small feature during early settlement.

The towns of Carlisle, Lowell, Westford, and Littleton were once located within the boundaries of Chelmsford.

Two rivers border Chelmsford, the Merrimack to the north and Concord to the east. These rivers proved to be prime attractions for trade and manufacturing in and around Chelmsford during the 18th and 19th centuries. Settlers in the 17th century noted that there was fertile soil along the Merrimack and Concord Rivers, but much of the rest of the soil was shallow and sandy or rocky and hard. As a result, the main assets of the town at that time were its fisheries, granite, limestone, clay, peat, and wood.

One of the most interesting features of the town is the Middlesex Canal. Opened in 1804 to connect the Merrimack and Concord Rivers, the part constructed through East Chelmsford rose 25 feet above the waters of the Merrimack by employing three locks.

The modern equivalent of the canal are the interstate highways. Routes 3 and 495 pass directly through Chelmsford placing it within easy reach of Boston, New Hampshire, and most of the municipal and industrial centers of the Northeast.

The First Inhabitants

When dealing with the history of Chelmsford it is only natural and right to begin with its first known inhabitants: the Indians. But because the indiginous population of colonial Massachusetts did not recognize, and therefore did not have town, county, and state boundaries, there was no sole tribe of Indians living entirely in Chelmsford. Instead, there was a variety of tribes inhabiting various areas of the town. The tribes that farmed and resided along the Merrimack and Concord River valleys were the Pawtuckett and Wampanoag tribes. The former were a relatively sedate farming tribe inhabiting the area now known as North Chelmsford and Lowell. The latter inhabited the South Chelmsford area to the Concord River. This tribe was rather large and friendly and even held a corner in the English trading market during the early years. Both tribes were members of the Algonquin language group. This group, which spread throughout the eastern region of the United States from Carolina to Labrador, had a common language and similar culture among the tribes which composed it. Contrary to the stereotype "noble savage," the Indians of the Algonquin confederacy were culturally advanced in comparison with many central and west coast tribes.

Both the Pawtuckett and Wampanoag tribes lived in typical Algonquin manner. Their homes were constructed of bent saplings covered with hides, bark, thatch, or all three and built in the wigwam or conical shape common to all tribes in the Northeast. A village was comprised of fifty or sixty wigwams surrounded by a palisade of sharpened logs to ward off unwanted visitors. Around the villages the Indians employed the slash and burn method to clear the land for farming.

The main agricultural advances of these people were the use of hand tools and the utilization of organic fertilizer, a method slightly more

Model of Algonquin Indian Village in the Museum of the R. S. Peabody Foundation, Phillips Academy, Andover, Massachusetts, showing village life.

advanced than that employed by the European settlers.

Although a rigid social structure was apparent within the tribes, division of labor was far from equal. Women tended fairly large fields of corn, squash, and tobacco - a task which produced more than half of the tribes' total diet. The men engaged themselves in hunting, fishing and trading. Although the Algonquin people relied upon their women for a large percent of their economic and physical needs, women were relegated to the most menial tasks whenever possible, as in most societies of the age.

Rise of European Settlement

In 1652 a group of colonists from Woburn and Concord petitioned the General Court of Massachusetts for the privilege of examining lands on the

"other side of the Concord River." In part the petition requested:

> "... to this court (Assembly of Massachusetts Bay)... the one from several of the inhabitants of Concord and Woburn, the other from Mr. Elliot in behalfe of the Indians, for the land bordering upon the River Merimacke, neere to Paatokette, to make plantations."

It received this reply:

> "First, that the petitioners who are inhabitants of Concord and Woburn shall have granted the tract of mentioned in their petition, excepting some of its joyninge to the Merimacke River, provided that said petitioners shall sufficiently breake upp full so much land for the Indians, in such place as they shall appoint on such plantation as shall be appointed them, as they have of plantings ground about a hill called Robbins Hill;... shall have use of the plantings ground aforesaid free of all damage untill the petitioners shall have broken upp the land for the Indians, as aforesaid."

In 1653, when a sufficient number of families had settled in the area, they petitioned the General Court of Massachusetts to "grant to us as much land as may be comfortable for a plantation." The petition was granted with the stipulation that the settlers must respect the land claims of the neighboring Indian tribes and maintain a "competent number of families" (approximately 20) so that they could enjoy "all the ordinances of God."

In 1654 the town acquired Rev. John Fisk to serve as its minister. A minister was a basic need of any town, but in Chelmsford this event had extensive social and political ramifications as will be shown.

Finally in 1655, having fulfilled their religious needs, the settlers petitioned the General Court for incorporation as a town. The court granted the request on May 29, 1655 and gave the settlement the name of "Chelmsford," a name derived from the English community, 29 miles east of London.

In 1656 the Court awarded the English all the land surrounding the Indian village of Paatookett. This legislation cut off the Pawtuckett Indians

from the hunting grounds necessary for their survival and either forced them to leave or to succumb to English cultural and religious assimilation or extermination.

Emergence of the Chelmsford Power Structure

After incorporation the political and social structure of Chelmsford developed rapidly and decisively. It was soon established that political and social power rested in the church and the local government. The Protestant church, in the person of Rev. John Fisk, held much influence over the town's political and social texture. This was possible for several reasons. First, the minister provided the town with a strong religious base which the people of the time desperately needed. To the Chelmsford settlers busily carving their existence out of the wilderness, the minister represented their only contact with formal religion. Secondly, he was an educated man - a rarity in colonial America. He could read and write and was probably the man who drew up the town's legal documents. Lastly, the minister kept church discipline and educated the young in religious matters. John Fisk was especially adept at this. The catechetical book he produced entitled The Olive Plant Watered stands as testimony to his expertise and scholarship.

Not only was the minister an important figure in colonial Chelmsford, he was extremely powerful as well. All of the people of the town were taxed to support him and the church. Church attendance was made compulsory, and those who did not attend were taken to court and fined. The minister became such a powerful figure in fact that people were brought to court for criticizing him in public. The case of Richard Hildreth is witness to this fact:

"At town meeting... Hildreth spoke against the minister and was cited to appear before the County Court at Cambridge to answer for reproachful speech of the minister of Chelmsford."

The political structure was composed of selectmen, military officers, and deacons. The selectmen became important, powerful, and necessary to the welfare of the town. They were in charge of approving land grants to newcomers and determining the size and boundaries of the land. They also were given the power to assess taxes. The General Court of Massachusetts assessed the town a certain sum of money to be paid to the Commonwealth and the selectmen, in turn, fixed the tax rates of the individuals of the town. If individuals could not or would not pay the taxes assessed them by the selectmen, their property was put up for public auction. In addition to these major duties, the selectmen were called upon to transact the day-to-day business of the town.

As this social and political fabric was developing, troubles were mounting between the settlers and their Indian neighbors. There is a notice recorded in the Water's History of Chelmsford advising all males above 16 years of age to carry clubs to the meeting house in order to ward off Indian attacks. Faced with the constant threat of Indian aggression, the town developed a strong military organization which was maintained throughout the American Revolution.

Major Thomas Hinchman lived in the Middlesex Village section of Chelmsford, near the Indian settlement in the area. He developed a close friendly relationship with the Indians. They communicated with Hinchman freely about the activities of other tribes and as a result Chelmsford was spared some of the problems of the frontier which other colonial settlements were having.

The main reason for Indian aggression was the forceful English expansion into Indian territory. The English attitude toward them worsened as time went

on. Depicted as "servants of Satan" and "the dregs of the world," Indians soon became the targets of systematic elimination at the hands of the colonists. Laws forbidding the sale of wine, liquor, firearms, ammunition, boats and livestock, and other laws requiring adherence to English customs and religion soon destroyed all tribes that came in contact with English settlers.

By 1675 King Philip of the Wampakages united the tribes of Massachusetts and Connecticut and launched the first organized aggression against the Europeans in New England. This force was deployed with the task of exterminating the white settlers. The time for such action, however, had long passed. The English were much too powerful to be moved, and what might have been the salvation of a people thirty years before was the last breath of the Algonquin people in New England.

While this last-ditch effort by the Indians to survive caused hardship and grief in the town, the effect was rather minimal. Even as the Indians were being eliminated from the New England scene, the people of Chelmsford settled down to plan their town and their lives.

Early Town Planning

The planning involved the layout of the various buildings in respect to the inhabitants. The layout of the town was efficient and compact owing to two factors. The town, being a corporation, had a limited number of stock holders. In addition, the General Court ruled in 1635 that "no dwelling shall be built more than one-half mile from the meeting house." While the latter was a precautionary act regarding the possibility of Indian attack, it also reflected the Puritan belief that "the final cause or end of every calling... is for the common good, that is, for the benefit and good estate of mankind." In other words, the Puritan ideal was one of teamwork and brotherhood, an ethic which held the towns together as units.

When the township for Chelmsford was granted in 1655, the first land to be allotted was the "common." Next the site for the first meeting house was chosen. This area faced the common as was typical of most New England villages. No land was set aside for schools at that time. Until 1718 classes were held intermittently in homes throughout the town. Individual distribution of land was based on its topography and the function it would serve, although the lots were basically the same acreage. These fields were mostly located on the outskirts of town thereby allowing more houses to be built closer to the meeting house. Today as in the past, many stone walls remain in the town to separate property.

Architecture in Colonial Chelmsford

According to Lewis Mumford, "Colonialism in architecture is first of all the result of homesickness; second, of national pride." The architecture of Chelmsford is a direct reflection of the mother country, as most New England architecture was. There are three types of habitations common to Chelmsford:

1. The one-room house (or the cottage style)
2. The cape-style house
3. The two room house

(Log cabins did not exist in Chelmsford or the rest of New England before 1750, the aforementioned type was a cottage derived from England.)

An example of a one-room dwelling can still be found on Westford Street at the corner of Skyview Drive. This house was comprised of one room containing a fireplace at one end and all the facilities of a kitchen, dining room, and bedroom, although there was an upstairs loft in which children could sleep.

There is a shell of a house located on 217 Pine Hill Road that is an example of a cape-style house. This plan consisted of two rooms downstairs

Old Chelmsford Garrison House

with a fireplace and chimney separating them. One room was a "best" room, reserved for special occasions only, and the other room remained a kitchen and family room. There was still a loft upstairs in which the children could sleep. Dormer windows were not found in these homes because of the lack of insulation and a superstition that the night air was noxious. Glass was used sparingly because of the high tax imposed by the British.

The Heywood-Garrison house is an example of an enlarged cape-style house, meaning that it has the same floor plan as a cape although the rooms are larger. The Garrison House is a prime model of what the large early New England farm houses were. There is a lean-to built onto the Garrison House, a most popular form of adding to a house in the Chelmsford and New England areas in colonial and early American times. The addition of the lean-to allowed more space up and downstairs. Upstairs it allowed more loft room

for sleeping, while downstairs it created separate kitchen, pantry and bedroom areas. The most common type of roof for the two room houses, both large and small, was the salt-box roof. This allowed for an easy extension of the rear house rafters creating more space to add onto the house.

Summary (1653 - 1750)

During this time period English settlers successfully emigrated from the mother country and made a new life here in New England. In the process they destroyed the Indian culture, which in many ways was equal to their own, mainly because of their incessant desire to accumulate land and their refusal to recognize the differences between the two people.

Chelmsford, in accordance with other settlements of the time, gradually and effectively pushed their Indian neighbors into extinction and developed an economic, political, and social texture along the lines of the accepted Puritan model. They developed a strong unity which, combined with their belief in keeping an effective military force ready at all times, left them as likely participants in the next challenge that would befall them - the Revolutionary War.

II

CHELMSFORD PREPARES FOR INDEPENDENCE

Prelude to Revolution

Prior to the outbreak of hostilities between Great Britain and the colonies, Massachusetts was astir with protest and revolutionary activities. Many of these activities were naturally centered in Boston, but because of the courage and stature of the individuals composing its government, the town of Chelmsford was well represented at these events.

The American Revolution was, in part, economic in nature. The basic taxes paid by the people of the colonies - even before the "tyrannies of taxation" as imposed by King George - were tremendously burdensome for an agriculturally-based economy. Colonists were taxed on land and its use, crops, and farm animals. In Chelmsford alone there were five tax assessors: Oliver Barron, David Spaulding, Zebulon Spaulding, John Minot, and Joseph Warren.

When the Stamp Act was passed in 1765 the colonists were hit in their most sensitive spot - their purses. Soon a cry of "Taxation without Representation" arose from the rebelling and tight-pocketed colonists. In Chelmsford, Colonel Samson Stoddard, the representative to the Massachusetts General Court, asked the town to formulate a course of action to deal with this matter. A committee consisting of Ephraim Spaulding, Aaron Chamberlain, and Timothy Clark was formed and advised Colonel Stoddard to do the following:

> "This being a time when by several acts of Parliament not only this province, but all the English colonies on this continent are thrown into the utmost confusion and perplexity; the Stamp Act as we apprehended, not only lays an unconstitutional but unsupportable tax upon us, and deprives us of those rights and privileges to which we are entitled as freeborn subjects of Great Britain by the Royal Charter. Wherefore we think it our duty and interest at this critical conjuncture of our public affairs, to direct you sir, our representative to be so far from contenancing the execution of the aforesaid Stamp Act, that you

use your best endeavors, that such measures can be taken and such remonstances made to the King and Parliament, as may obtain a speedy repeal of the aforesaid act; and a removal of the burden upon trade. We also desire you to exert your influence to use the public monies with frugality and to the promotion of the interest of the people at large."

(Signed)
Ephraim Spaulding
Aaron Chamberlain
Timothy Clark

When the Stamp Act was repealed in 1766 there was much rejoicing in the colonies. On May 23, 1766 a celebration was held in Chelmsford to honor Colonel Stoddard. The repeal of the Stamp Act, however, was a "too-little, too-late" effort by the British to avoid outright hostilities with the colonies and was undoubtedly undertaken only because of economic pressures within Britain. But in the colonies the seeds of revolution had been sown in fertile ground, and soon they would reap a generous harvest.

On January 11, 1773 a town meeting was held in Chelmsford "to know the sentiments of the inhabitants, relative to certain grievances under which the colony is now laboring... to also consider a Bill of Rights and a letter from the town of Boston."

A committee consisting of David Spaulding, Jonathan W. Austin, Esq., Captain Oliver Barron, Samuel Perham, and Benjamin Walker was formed to research the letter and reply to it. They reported that the town realized that their rights as free British subjects were being infringed upon and that the only course of action was to act as a united group with the General Court as the leader. They also believed, however, that any action taken against the mother country was to be prudent and weighed for its outcome. The Committee instructed Mr. Simeon Spaulding, representative to the Massachusetts General Court at the time, to act in the following manner:

"We would earnestly caution you against any rash and passionate measures, which will not only sully the dignity, but finally prove the utter destruction of the cause we pretend to support... In conclusion, we wish you that wisdom which is from above, and we pray God that your conduct may be such in this important crisis as the coolest reflection will justify."

In December of 1773 the Boston Tea Party was undertaken in order to protest the levy of taxes by the British Parliament without the consent of the people. Approximately fifty men "disguised" as Indians boarded two English vessels and dumped 340 chests of tea from the ships' holds into Boston Harbor. John, Samuel, and Lendall Pitts were among the "Indians" involved in the event. According to local tradition, the Pitts brothers were sent to Chelmsford for a "cooler atmosphere." Samuel Pitts settled in Chelmsford after the war.

This act of rebellion was meant to be, and was accepted as, a blatant insult to Great Britain. The infuriated British Parliament reacted swiftly and harshly. They passed a bill which closed the port of Boston until such time as the city reimbursed the owners of the tea for the 15,000 pounds that was lost in Boston Harbor. This legislation effectively cut off foreign trade, the life-blood of Boston and indeed all of New England. Unfortunately for Britain this blockade also generated a great deal of sympathy for the people of Boston and persuaded many hitherto loyal colonists into supporting revolutionary activities. Support in the form of food, clothing, and other provisions poured into Boston from neighboring towns throughout the Commonwealth and other colonies as well. In Chelmsford sheep and cattle were collected and sent into Boston for relief of the sufferers. Two men, Samuel Howard and Captain Samuel Stevens, drove the livestock to Boston and were later reimbursed by the town for their efforts.

This blockade of Boston, coupled with the decision by Parliament to transfer the Commonwealth's seat of government from Boston to Salem were the final

events which triggered an explosion of revolutionary fervor which drove even some of the most patient colonists to prepare for the war for independence which they now were sure would come.

Preparations for War

Activities taking place in Chelmsford paralleled those taking place throughout the colonies. Committees of Correspondence were formed in an attempt to connect and unify the scattered groups of colonists. Militia and minutemen regiments were organized and trained.

The Chelmsford Committee of Correspondence met on May 30, 1774 and sent a thoughtful, highly emotional letter to the Boston Committee pledging Chelmsford's support of Boston's revolutionary actions. They saw the British attempts to enforce taxation without representation as "a direct intention to enslave" the inhabitants of the colonies. The letter commented that the closing of the port of Boston was "dangerous and destructive" and stated that the people of Chelmsford would "support the town of Boston in defense of rights common to all of us." The letter concludes with a patriotic outburst - "In freedom we're born, and in freedom we'll die!" - which seems consistent with the feverish emotional pitch of the times.

Soon after this letter was sent to the Boston Committee of Correspondence a Provincial Committee was formed. Chelmsford's delegates to this committee, Jonathan Austin and Samuel Perham, met in Concord in August of 1774. At this Provincial meeting a Committee of Inspection was chosen "to prevent the purchase of any articles imported from Great Britain." It was also voted that each town raise and equip fifty minutemen.

Chelmsford men (women were not allowed a voice in government) were also present at a Middlesex Convention which met on August 30 and 31, 1774 to

"consult upon measures proper to be taken at the present very important crisis." This meeting also produced the "Middlesex Resolves" a forerunner of the Declaration of Independence outlining colonial grievances with England.

In September of 1774 the townspeople of Chelmsford again sent assistance to blockaded Boston in the form of forty bushels of rye, and throughout the remainder of 1774 Chelmsford men continued to participate in the Provincial Congress.

But by March of 1775 the stench of war was clearly in the winds, and the townspeople voted to increase the drilling time of the minutemen and to increase discipline. They realized that the time for committees and revolutionary documents was drawing to a close and that soon their men would be called upon to fight for the ideals to which they had committed themselves.

Chelmsford and the Revolutionary War

Their day of reckoning arrived on April 19, 1775. The British General Gage, having learned that Samuel Adams and John Hancock were in Lexington, sent 800 troops to arrest the men and then to move on to Concord to seize military supplies. Paul Revere and William Dawes, on their famous midnight ride, warned the colonists of the British approach.

At Chelmsford that morning the people had been aroused by the alarm of the British advance. A mounted messenger from Billerica dashed into the town proclaiming the news that the British were indeed headed toward Concord.

The alarm bell was sounded and Chelmsford's militia was assembled. Among the assembled minutemen were Lieutenant Colonel Simeon Spaulding, Benjamin Pierce, Samuel Perham, and Samuel Parkhurst. The Chelmsford militia was divided into two troops; one troop consisted of 61 men led by Captain Oliver Barron, the other was composed of 43 men led by Lieutenant Colonel Moses Parker.

Painting of Lt. Col. Moses Parker by
Ed Harris showing Parker lying wounded
at the Battle of Bunker Hill.

Once assembled the men hurried toward Concord to combat the British. They encountered the British soldiers at Concord Bridge where the first shots were fired. They then harassed the British all the way back to Boston. Several prisoners of war captured by the minutemen on April 19, 1775 were sent to Chelmsford for safe keeping.

Chelmsford men were also very active in the Battle of Bunker Hill. One man, Captain John Ford, volunteered to carry messages between Cambridge and Bunker Hill. Captain Ford also led a group of sixty Chelmsford men in the battle against the British. One other point of interest is that the first shot fired at Bunker Hill was fired by Joseph Spaulding. Among the Chelmsford men wounded at Bunker Hill was Colonel Ebenezer Bridge, Jr., son of the local minister. Captain Ford and his men were also active in the transportation of a cannon from Fort Ticonderoga to the battle.

25

These seemingly small skirmishes held monumental ramifications, for it conclusively proved that the colonists were prepared to fight, to kill, and to die for their self-proclaimed freedom. The citizens of Chelmsford, although somewhat dumbfounded by the rapidity of events, soon grasped the full meaning of that fateful day, and Chelmsford men performed among the best in Washington's army for the remainder of the war.

Summary (1750 - 1800)

In this period of American history one is confronted with an enormous number of events which in the end produced a staggering offspring, the United States of America.

The nation was born on the basis of economic motives in the minds of the colonists which in turn were fueled by a growing and deepening emotional zeal for freedom from Great Britain. The colonists triumphed in the confrontation that followed, not because of any superior military might, but because of a flame of emotional fortitude which was carefully fanned by colonial leaders and propagandists. Thus the British found themselves defeated on the basis of the superior drives of the colonial forces and found it no longer feasible to engage in hostilities.

In the post-revolutionary fervor that ensued, a government again based more on emotional principles than economic ones was formed. This government tenuously existed until 1787 when sounder economic principles intervened to produce the United States Constitution and the Bill of Rights. These documents, combined with the governmental policies that followed, laid the solid foundation on which to build the great nation envisioned by the farmers at Concord Bridge in 1775.

III

CHELMSFORD AT THE EDGE OF INDUSTRIAL AMERICA

Industrial Development

The phenomenon of industrial development in New England is perhaps the most important circumstance in the development of the American economy as it is known today. The industrial development of Massachusetts has been the model for modern industrial complexes throughout the world.

As early history, geography, and population are essential to the comprehension of this uniquely American or more accurately New England experience, it is imperative that those aspects be dealt with accordingly. New England, while primarily an agricultural region between 1630 and 1700, was geographically unsuited to the large-scale production of cash crops which had given Virginia and the South their livelihood and culture. The lack of sufficient flat lands and the tendency toward rocky fields seriously impeded the development of New England as a prosperous agricultural region. While to a farmer Massachusetts had its faults, the steep land produced excellent timber resources for naval construction and a source of water power capable of supporting unlimited industrial development. Thus, the same geographical characteristics which discouraged agricultural prominence for the region provided ideal conditions for the development of industry. Despite these seemingly favorable conditions for industrial developments it was the ingenuity and far-sightedness of the people inhabiting the area which allowed these conditions to be properly utilized.

The people of early New England were of middle class origin bent on the establishment of "God's kingdom on earth." While the Southern states developed essentially as appendages of the British Empire, New England developed as a unique and separate entity. With eyes focused towards their own development, New Englanders harnessed water power to grind grist into flour and to cut timber into planks which were then sold as semi-finished products to

England at an increased profit over the raw materials sold by the southern states. Toward the late sixteen and early seventeen hundreds, New England industry expanded to include shipbuilding, large scale fisheries, and extensive trade. These activities were once the sole domain of the British merchants. Shipbuilding and commerce soon exceeded agriculture as the single most important area of income in Massachusetts.

In addition to the Massachusetts ascent to commercial prominence, the influx of Irish weavers into Boston fostered a textile industry on the same pattern as the English cottage system (production by individual workers in their homes rather than collectively in a factory). In Saugus an iron foundry produced cast iron implements and fixtures of all types. While more the exception than the rule, the early industries were indicative of the highly-centralized New England community's ability to provide a sufficient and competent work force required to develop the industrial potential of the country.

The industrial development of Chelmsford was characteristic of the social system peculiar to New England. Because of the trend towards self-sufficiency and centralization in New England communities during the colonial and pre-industrial eras, it was common for town governments to encourage and subsidize industrial efforts that were viewed as beneficial to the inhabitants of the area or held prospects of increasing the community's revenue. This subsidization had existed in New England since the advent of the Puritans and the Protestant work ethic. It afforded Chelmsford and other communities the opportunity to slide easily with little social disruption into the Industrial Revolution.

Early Chelmsford Industries

It should be noted that Chelmsford from its beginning always seemed ready to embrace a promising new industry within its boundaries. One

Stony Brook in North Chelmsford provided water and water power for early Chelmsford industry.

example of this point is the fact that within three years of the town's establishment Chelmsford had attracted its first weaver, William Howe. He made numerous proposals and was finally "granted twelve acres of meadow and eighteen of upland, providing he set up his trade and do the town's work." Soon other industries were attracted to the area. Within two months Samuel Adams was granted four hundred fifty acres adjoining his own land, "provided he supply the town with boards at three shillings per." Within five years Adams succeeded in obtaining one hundred additional acres for the establishment of a corn mill as well as the right to all the water power from Hart Pond forever. Chelmsford now was equipped with the materials and enterprises for processing food and building materials, not to mention fabrics for clothing. All these advantages of Chelmsford did not go unnoticed by its neighbors or passing settlers. Chelmsford began to enjoy a fringe benefit of its indus-

try -- a continually growing population. By 1669 the population was so much larger that a second saw mill was necessary.

In North Chelmsford the first industry was a foundry which produced iron from bog ore. The ore was obtained from the swamps and ponds of the area. Crystal Lake, a pond of nearly 100 acres in size, was utilized for water power to operate the foundry's furnaces.

Until 1802 Chelmsford industry was used primarily for a single task -- to satisfy the basic needs of the townspeople.

The basic elements that allowed the industrial revolution to flourish in the United States, and especially in New England, were cheap power and transportation, plus a concentrated and educated supply of labor. Chelmsford possessed all these factors. In 1792 the Merrimack Canal Company built the Pawtucket Canal to bypass the falls on the Merrimack River making lumber bound for Newburyport shipyards transportable by water. In 1804 the Middlesex Canal opened direct water trade between northern Massachusetts and southern New Hampshire with Boston.

The results of inexpensive canal transportation to the coastal centers of commerce were immediate and significant. The canal brought much trade and manufacturing into the area which resulted in a dramatic increase in population, from 1,144 in 1790 to 1,450 in 1800. On the last section of the Middlesex Canal sprang Chelmsford's first industry aimed at external consumption, the Chelmsford Glass Manufactory. The factory was an immediate success. With an annual output of three hundred thirty thousand square feet of window glass, the plant employed its workers in a cottage system manner. Twenty families were employed on yearly contracts. Even though it had an advanced array of equipment, the company continued to utilize wood rather than water power to run its machinery. Between 1800 and 1821 carding mills were established by Moses Hale at River Meadow Brook under the auspices of the Adams family.

Granite quarrying was one of the fastest growing industries at this time. By 1817 there was so much demand for Chelmsford granite that the quarries were unable to keep up with the orders. Local producers transported their granite for use in the Boston building industry by flatboat down the Middlesex Canal. Chelmsford granite was later used to build thousands of miles of street curbing throughout New England and was also used to erect many famous buildings in the East including the National Archives in Washington, D.C.

Two limestone quarries began operating in the mid-eighteenth century. Plaster made from the limestone is still found in many of Chelmsford's old houses. One of the quarries was located off Littleton Road, the other on Robin Hill. Bricks were produced at a kiln in East Chelmsford owned by Asa Frost in the latter part of the 18th century.

Lowell - A Planned Industrial Community

During the War of 1812 the production of cotton and woolen textiles increased dramatically to fill the market gap left by the boycott of British goods. The products produced by domestic mills at this time were of such poor quality that as soon as the war ended American consumers abandoned them in favor of superior textiles produced in the British Empire (predominantly in India). The resumption of trade with Britain following the war devastated domestic industry to the point where recovery was impossible.

During this same period Francis Lowell was studying the British concept of the power loom in Edinburgh, Scotland. He brought this knowledge with him to the United States. Paul Moody of Amesbury perfected the concept for actual institution in an American factory. The results startled even the most passive observers of the time and catapulted Massachusetts and the North into the industrial revolution. This changed the face of the American economic

and social systems forever.

The first of the Lowell factories was opened in Waltham by Patrick Jackson and Francis Lowell in 1814. The Waltham Company was the first of its kind capable of profitable competition with the cheap textiles produced by the cottage system of India. Faced with the prospect of industrial development in the North and expanded markets for southern cotton, Lowell realized this situation called for drastic measures. He quelled the crisis by convincing Congress to impose a tariff of six and one half cents per yard on all foreign textiles. The move smacked of sheer genius. Not only did it allow the Waltham Company to make a significant profit, but the tariff was enough to force anyone wishing to produce textiles to turn to the power loom of which Lowell was the undisputed patent holder. The effect of Lowell's diplomacy was exactly as expected. Waltham textiles covered the country within just a few years. Company capital was then used to buy the machine shops, boarding houses, stores, and churches necessary to the function of Lowell's ideal factory town. The city of Waltham became the sovereign domain of the company.

Following Lowell's death his partners Patrick Jackson and Nathan Appleton began the exploration for a second site on which to construct a new mill. They travelled extensively along the Merrimack River in search of a site with plentiful water power. They settled on the Pawtucket Falls in Chelmsford where a waterfall of thirty feet onto hydraulic wheels could produce sufficient power to run the entire proposed complex with excess power for extensive expansion. Two minor obstacles, however, still blocked their grandiose dream from becoming reality. First and foremost was the fact that the water rights and some of the land were owned by two canal companies: Merrimack and Middlesex. Secondly, there was the question of how to purchase the twelve surrounding farms without attracting speculation (thus leading to an increased price). Through secret

Middlesex Village section of Chelmsford which was ceded to form the town of Lowell in 1826.

purchases Appleton obtained sole ownership of the Merrimack Company's stock as well as eighty percent of the Middlesex Company's. In a series of real estate deals Appleton's clerk, Tom Clark, secured sole ownership of all the land in the eastern and northeastern parts of Chelmsford now know as Lowell. The land was ceded from Chelmsford to Lowell. Lowell incorporated as a town in 1826 and as a city ten years later.

With the obstacles removed, construction of the world's first vertical textile mill began. Unlike the Waltham complex Lowell utilized the entire concept of transforming raw cotton into finished cloth within the same complex. This concept was to revolutionize the textile industry throughout the world and promote Lowell into "Industry's Mecca on the banks of the Merrimack."

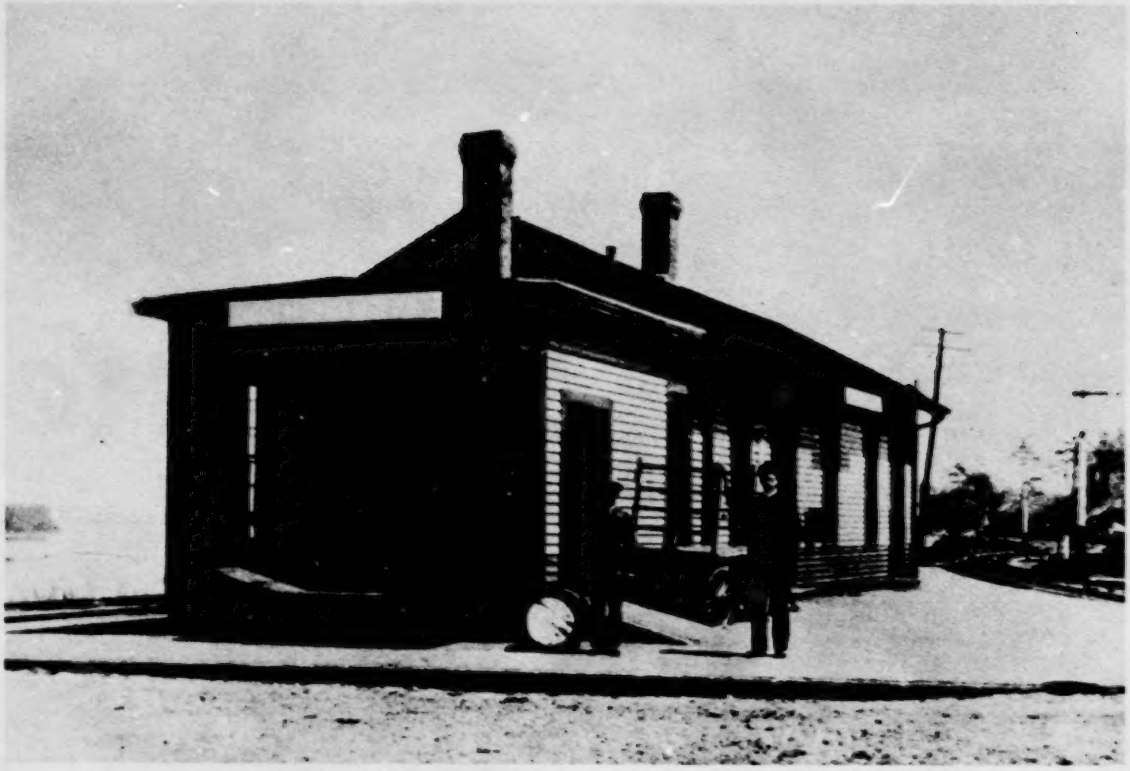
As rivers rise beyond their banks and engulf the surrounding area, such

was the effect of this new and brilliant industry on the people and city of Lowell. The mill complex expanded to include producers of tools and machinery related to textile production, boarding houses for the workers, retail stores, and even churches, schools, and hospitals. Lowell became the domain of the company and company rule became law. Strict conformance to company curfews was demanded of all workers. Single women who came to work in the mills from the farms of New England were expected to reside in segregated dormitories under the supervision of a matron. "Respectability" was the supreme doctrine of the company.

While company control of this magnitude may appear shocking to some, this system substantially eliminated the squalor of the worker's life so prevalent among the working class in Europe. Lowell became a model industrial community and the subject of books and articles published in the United States and Europe. By 1848 a cartel of eight companies controlled by five men produced ten million dollars per year and employed thirteen thousand people in direct production. But the ideal conditions which allowed this internationally acclaimed system to exist were subject to change, and in 1848 Southern lobbyists against a tariff on foreign goods successfully affected the abandonment of protective tariffs, thus forcing the company to reduce wages and abandon its housing program.

The Chelmsford Connection

Throughout the period Chelmsford remained primarily in the role of a food and labor supplier, although one new industry which was to become world famous opened its doors in South Chelmsford in 1835. Ezekial Byam manufactured Lucifer matches, an English invention. Two years later he acquired the patent for friction matches and began producing and shipping them all over the United States.



Boston and Maine Railroad Station in North Chelmsford.

New hope for growth was rejuvenated in Chelmsford when, on October 8, 1838, the Lowell and Nashua Company opened the first railroad in the town. The station was located in North Chelmsford. The Stony Brook Railroad, which ran from North Chelmsford to Forge Village, was the second line to operate within Chelmsford which in turn was eventually absorbed by the Boston and Maine Railroad. The Framingham and Lowell Railroad made its first run on August 22, 1871 with stations in the Center and South sections of Chelmsford. In 1872 the people of the town suggested the idea of a commuter train between Chelmsford and Lowell, thus the "scoot-train" was established on July 8, 1872 and made eight runs per day between 6:45 A.M. and 6:15 P.M. Through these railroad connections Chelmsford gradually acquired rail contact with all the major commerce centers of the area.

Support for Abolition Grows

Although the nineteenth century is generally seen as the "growing-up" period for American industry, industrial expansion was not the sole issue of concern for the people of the times. In the years preceding the Civil War several events occurred which caused the institution of slavery to become indispensable to the economy of the South, and thus an issue of national prominence. The most important of these was the development of the cotton gin by Eli Whitney and the subsequent high profits which resulted from the cotton trade. In the North, however, people began to object to the basic nature of slavery on moral grounds. This resentment made itself manifest in the form of a political movement devoted to the abolition of slavery. Its champions were the writers, politicians, and orators of the North. The people were inspired by the works of William Lloyd Garrison, Harriet Beecher Stowe, and Frederick Douglas to rally against the "evil" of the South. Anti-slavery meetings were held and the movement was given impetus and direction. An underground railroad system was established to transport runaway slaves to the North. Virtually all Massachusetts slaves had been set free in 1780 in accordance with the Bill of Rights in the Constitution. Massachusetts politicians had become ardent supporters of all abolitionist legislation.

In Chelmsford however the picture was of a somewhat subdued nature. While there may have been abolitionist sentiment within the town, it never expressed itself in the form of a society or movement. Certain individuals in the town may have belonged to the Abolitionist Party but there is no trace of abolitionist activity in Chelmsford town records and historic files.

On the Battle and Home Fronts of the Civil War

Chelmsford residents were among the 4,000,000 troops that took part in

the American Civil War. Two hundred forty-one Chelmsford men served in the Union forces. Twenty-two were killed on the battle front.

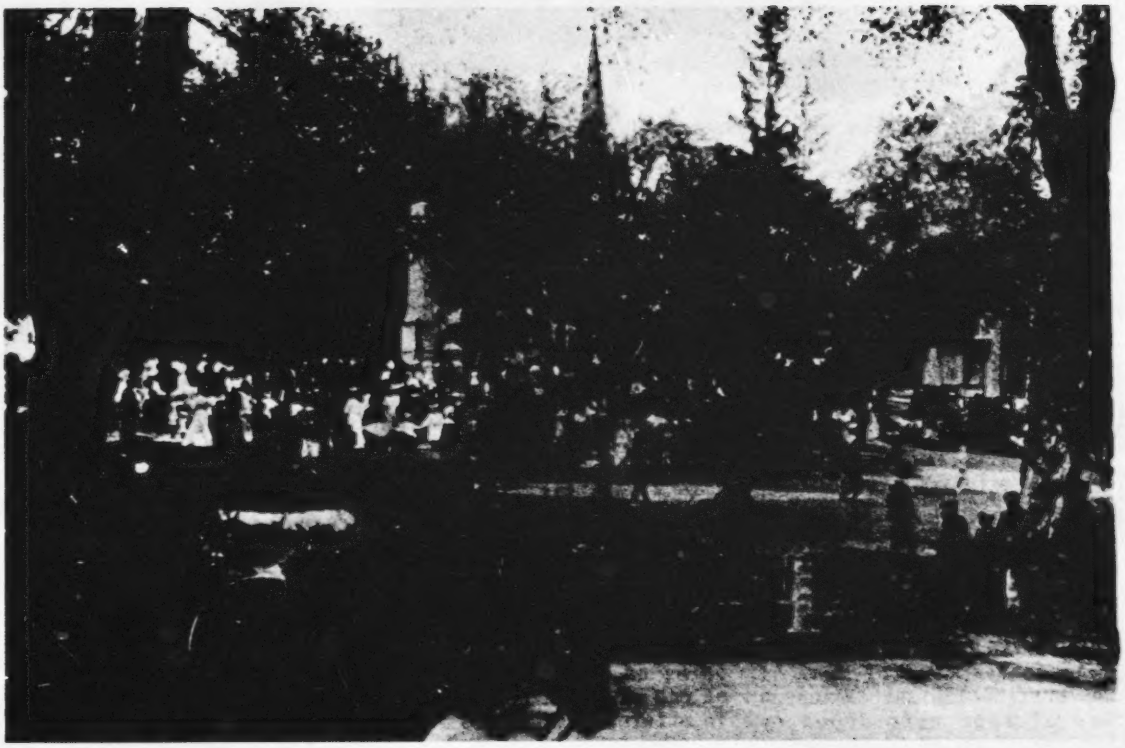
On the home front in Chelmsford every agency was made available to furnish relief to the Union soldiers at the battle front. The Soldiers' Aid Society was formed and collected a considerable amount of money. Volunteers used it to either make or furnish articles for the soldiers such as blankets, quilts, socks, shirts, bandages, towels, mittens, and comfort bags. The Society also sent food to the Union soldiers such as pickles, currant jelly, wine, dried apples, and corn starch.

In 1864 raids on the Canadian border were being made by Confederate troops. Christopher Roby of Chelmsford, who at one time was a member of the Governor's Horse Guards of New Hampshire, made application to Adjutant General Schonder of Massachusetts for permission to raise a company of cavalry in order to protect the area from the Confederate threat. Permission was granted and 100 men were soon recruited with Chelmsford providing its full quota. Roby also was the owner of the scythe manufacturing company in West Chelmsford which manufactured swords to meet the war demand of the northern cavalry.

The Civil War resulted in the preservation of the Union and brought about an important alteration to the United States Constitution. The abolition of slavery had far-reaching social and economic changes, many of which would be felt in the century to come.

Reform

Other social changes were taking place in America during the nineteenth century. Demands were being made to extend voting rights to women, to provide more humane treatment for people who were considered insane, to make life in the growing cities more tolerable, and to improve the quality of



Chelmsford residents celebrate America's Centennial on the Town Common, July 4, 1876.

education in the nation's schools. Massachusetts was in the forefront of many of these reforms.

Included among the reformers were two women from the Chelmsford area. Lucy Larcom, a worker in the Lowell mills from the age of twelve, became a well known advocate of women's rights. Dismayed at the status of women in general and women mill workers in particular, Larcom called upon women to unite: "Womanhood should mean sisterhood... Every woman among us owes every other woman who is seeking an honorable maintenance at least such sympathy as she would wish for herself."

Harriet B. Rogers opened a school for the deaf in Chelmsford in 1866. Along with Mary Byam, her assistant principal, Rogers was the first individual in America to successfully teach lip reading and speech to deaf children. One of the pupils in this Chelmsford school was Mabel Hubbard who was

T. J. Adams
Albert
Barn
Carings
River
Main
Fletcher
Sand Bank
Story
Shaw
T. J. Adams Est.
No. 6 Chelmsford
Town of Chelmsford
Scale 400 ft. = 1 inch

later to become the wife of Alexander Graham Bell. Bell's experience in visualizing the vibrations of speech led to the invention of the telephone.

Immigrants Become New Settlers for the Area

Following the Civil War America's thoughts were once again turned to the major development of the age - industry. An analysis of the post war state of industry shows that the war did much to encourage and strengthen industry's portion as the mainstay of America's economic life.

At this time also, America was besieged by millions of people emigrating from other lands seeking food, jobs, freedom from political oppression and a place in the new industrial boom. Following the factories to all parts of the country, these immigrants generally settled in cities where they felt they had a better chance of employment. Cities grew as factories developed. More and more immigrants continued to flood the country in search of a better life.

Locally this phenomena can be viewed quite clearly. As the mills of Lowell were developed streams of Irish, French-Canadian, Greek and Polish immigrants were attracted to the city. As Lowell rose to industrial prominence, the number of immigrants coming to the city grew proportionally. These groups attempted to maintain their ethnic identity while blending into the total culture.

Chelmsford continued to be a farming town with a few small industries. Some of the immigrant population of Lowell may have spilled over into Chelmsford. A property map of the late 19th century reveals that there were eighty English families and ten Irish families living in North Chelmsford, most of whom were found to be living in a cluster around a Catholic Church. Virtually all the industries of the town were owned by persons of English descent (Baldwin, Hall, Edwards, etc.). Though no precise information can be obtained re-

garding the activities of the Irish in Chelmsford, it appears that from 1865 - 1900 they were simple laborers residing in the town. Chelmsford lacked the big mills to attract a large immigrant population and was left virtually unaffected by the great influx of immigrants to the area. Lowell, on the other hand, owes its spectacular growth during this period directly to its immigrant population.

Summary

One of the greatest effects of the Civil War was that it revitalized the northern states' economy and catapulted the United States into the midst of the Industrial Revolution. America soon achieved status as a major industrial nation. The Southern blockage forced Massachusetts mills to retool their machinery for the production of woolen and flaxen textiles. Despite the change in raw materials, textile production continued logarithmic growth increases. In the large eastern cities the requirements of war sparked new industries. In New York and Boston ready-made clothing for soldiers and civilians alike was introduced. The home of textiles, eastern Massachusetts, experienced a new industry, the mass production of shoes, and significant advances in production technology.

Within this environment of change, Chelmsford was bound to be affected. In essence, however, the change during this period of time was small. The town's boundaries were squeezed by its neighboring industrial giant, Lowell, and Chelmsford also lost some of its most promising industry. But some industry remained, and with the cities growing around it, Chelmsford began an upward population spiral which lasted well into the twentieth century. The coming of the railroads brought more people, business, and industry to the town but as yet it was still building toward its industrial peak somewhere in the future.

IV
TWENTIETH CENTURY CHELMSFORD

The Industrial Boom Continues

The pre World War I era of the twentieth century was one of prosperity and stability for Chelmsford, Massachusetts, and indeed all of New England. The United States had become in fact, as well as in name, the industrial giant of the world and New England was the heartland of the industrial state. In 1900 Massachusetts produced fifty-one percent of all the cotton and forty-two percent of all the woolen textiles manufactured in America with the mills of Lowell, Lawrence, and Woburn as the leaders. In the cities of Brockton, Lynn, Haverhill and several others the people of Massachusetts produced almost forty-five percent of all the shoes in America. As Lowell had stunned the world in 1821 with the introduction of the power loom and the industrial complex, so the shoe capitals in Lynn and Brockton revolutionized the shoe industry with the introduction of standardized sizes as well as the closing and binding machines of mass production technology. While technology strengthened Massachusetts dominance over the world's production of shoes via "Yankee ingenuity," the art of mass production technology had provided the second broad pedestal on which the state's economy would stand.

Although the Massachusetts economy was primarily based on shoe and textile production at that time, they were by no means the only industries. In 1905, while the number of mills decreased, the Massachusetts industrial income from the production of paper spiraled to rank Massachusetts a close second behind Michigan but ahead of Maine. The jewelry industry produced nearly eight million dollars worth of goods per year. While perhaps not the most profitable, the production of the nation's capital machinery is one of the most important industries.

During the initial boom of textile technology, New England, and in particular Massachusetts, was faced with the necessity of producing its own

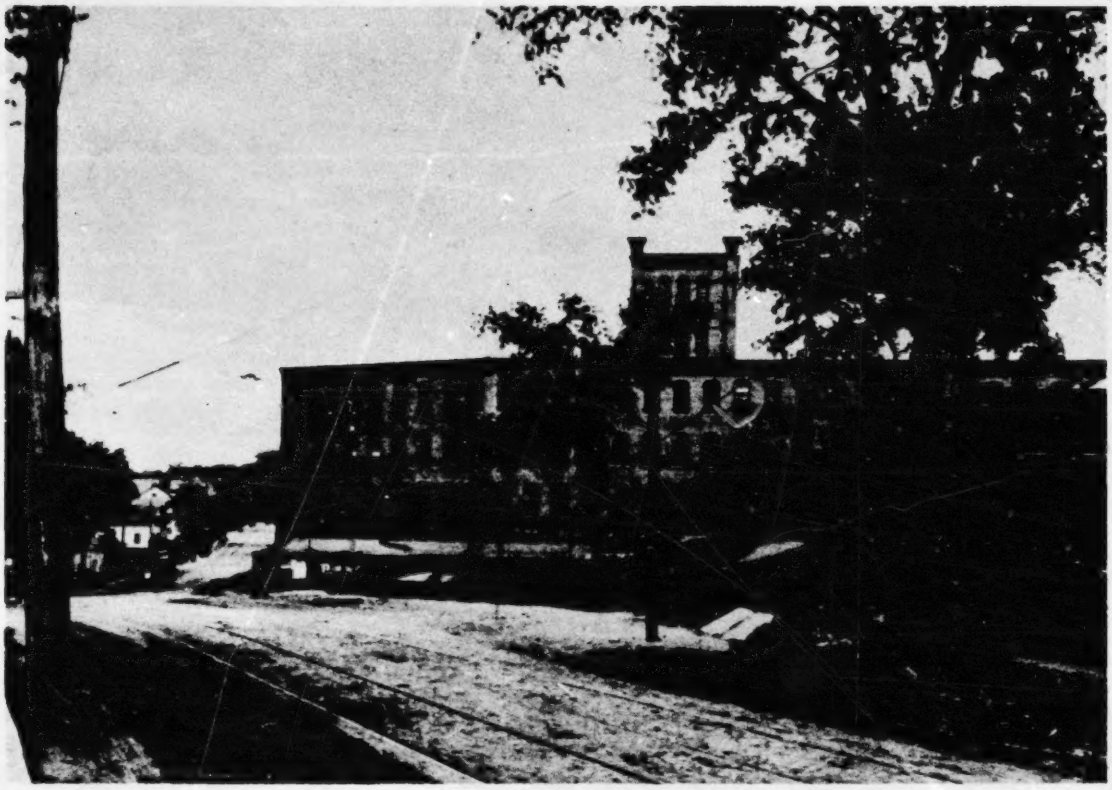
machinery. Beginning first with extensive company-owned machine manufactories in Lowell, machine producers spread throughout the state to provide the capital equipment for the extensive industrial development which the country was to experience. By 1905 Massachusetts produced nine-tenths of the nation's textile machinery for world-wide exportation to every major industrial nation and almost ninety-eight percent of the shoe production machinery. Farm machinery, telegraph equipment, hydro-electric turbines, foundry equipment, metal processing devices, railroad machinery, and even automobile production combined to make Massachusetts the leader of the world in capital production.

This type of growth was far from an isolated occurrence for it manifested itself in hundreds of towns throughout the Commonwealth. By 1917 the local factory had become quite a common phenomenon in the small towns of New England. Using available water power and the high density of rail transportation, a large number of small towns shared the industrial revolution as paper and spinning mills prospered in small Massachusetts communities such as Pepperell and Forge Village.

Industrial Development in Chelmsford

Chelmsford developed its own industries with accompanying machine shops on the water-powered areas of North Chelmsford. As a result of direct stimulation stemming from the Lowell textile experience, the proprietors of early Chelmsford industry developed textile and related industries.

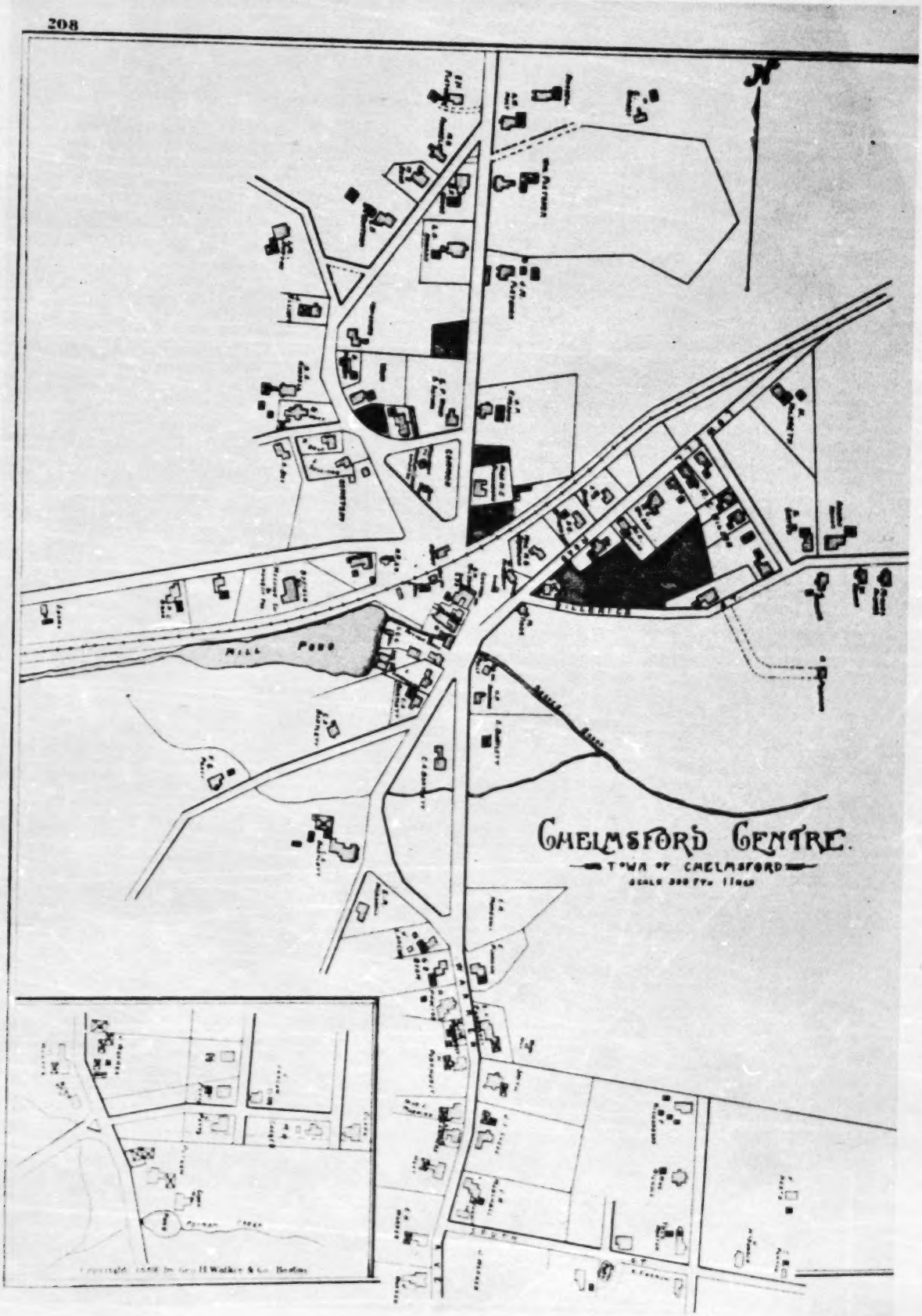
In 1905, however, the traditional industries were still largely predominant in number. Several blacksmiths and wheelwrights served the needs of a largely farm population while industries producing soap and wood-related products rose near the town line to serve both Lowell and Chelmsford. Greenhouse starts and other advanced farming methods were employed in South and

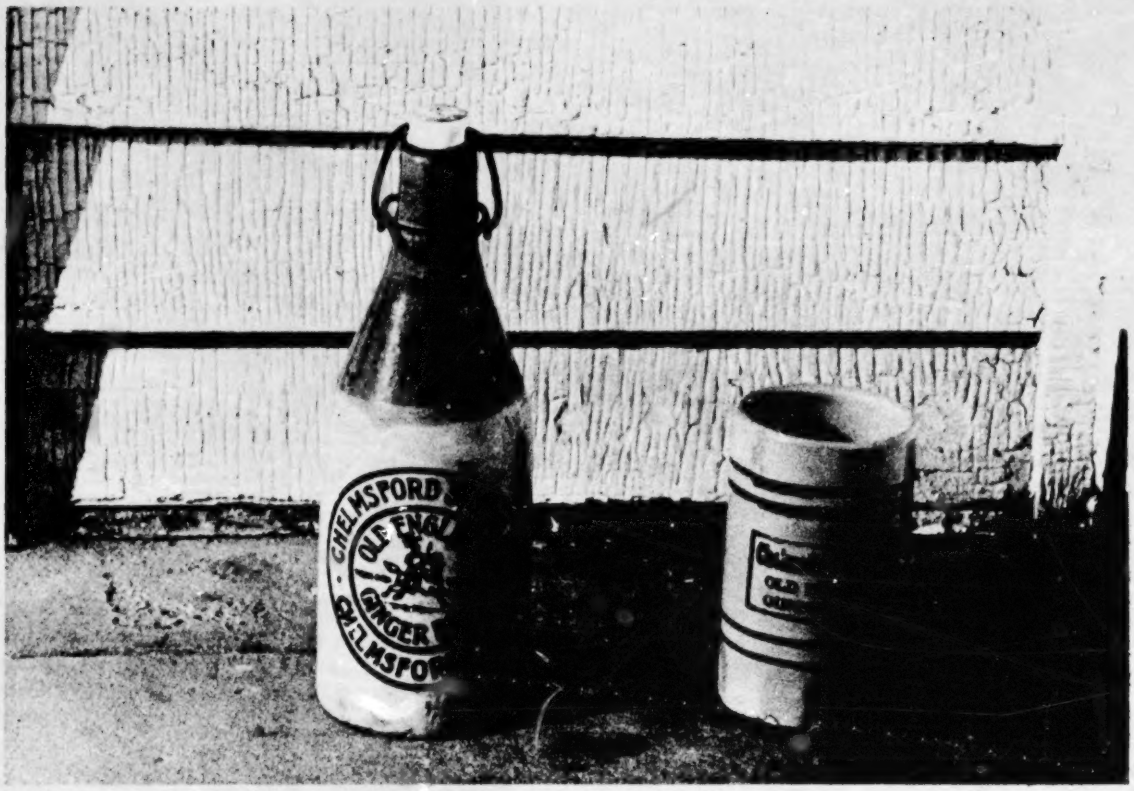


G. C. Moore Mill in North Chelmsford.

East Chelmsford. Roland Parkhurst had a very active greenhouse near Chelmsford Center.

Primarily modern industries were concentrated in West and North Chelmsford where the trend toward massive capital investment in the late 1800's had allowed the revitalization of the largest industry in the town, the Baldwin Mills by George C. Moore. The mills were operated by penstock wheels in pits on Stony Brook with rented water power because the water rights were owned by the Adams family of North Chelmsford. Between 1900 and 1917 mill expansion in North Chelmsford continued at a comparatively rapid pace. The Baldwin Mills expended considerable amounts on new machinery and buildings. A new mill, United States Worsted Corporation, established itself on Middlesex and Princeton Streets and, using both water power and coal, it operated much like the Baldwin Mills.


MILL POND
CHELMSFORD CENTRE.
TOWN OF CHELMSFORD



Over the years the Chelmsford name has spread across the nation through the production of a variety of products.

Baldwin Mills' proprietors, interested in developing other industry in the town, established the Chelmsford Spring Company in Chelmsford Center. Out of this endeavor evolved the Chelmsford Ginger Ale Company incorporated by George C. Armstrong in 1901. Like the Baldwin Mills, the Chelmsford Spring Company, the Chelmsford Foundry Company, and the Sugden Press Bagging Company in West Chelmsford which was owned by Frederick Snow were short lived. They were victims of poor management, insufficient capital, lack of demand, or perhaps to the single factor which is most responsible for the fall of Massachusetts industry, the general shifting of corporate locations.

Industrial Investment and Decline

Following the Civil War New England corporations began to invest in the development of the West and the reconstruction of the South. By 1917 the

effect of this investment became increasingly clear. In a purely statistical sense New England and the entire country were growing at a boom pace. Yet upon categorical analysis the very industries which Massachusetts capital and technicians were developing elsewhere were precisely those on which New England relied. Recognizing the added savings on wages, transportation, and fuel by locating in the South, the textile corporations of Massachusetts exported modern textile technology to South Carolina and Georgia. Non-union labor, a mild climate, the proximity of raw cotton and the availability of cheap coal and oil provided optimum conditions for textile production. Attracted by vast tracts of forest, virtually unlimited mineral resources, and readily and cheaply available coal, the heavy metal industries as well as the paper, shoe and furniture industries extended operations west to the Great Lakes Region. With those investments of modern capital went those very New Englanders who were necessary to the managerial and technical supremacy of the East. Thus as New England industrialists sought to develop the South and West, they deprived New England of the very assests which had made it the industrial heartland of the nation. Deprived of its investment potential and its technological edge in the first two decades of the twentieth century, Massachusetts industry and power declined in the years ahead.

The Great War Brings Changes

World War I led to the stimulation of the failing shoe and textile industries of Massachusetts. More importantly it stimulated the growth of new industries which offered the opportunity to regain the technical supremacy and prosperity lost to the South and West in the traditional industries. With war demands at a peak, the hitherto tiny chemical and electronics in-

dustries rose to prominence. Advancement in electrical technology made inexpensive radios, phonographs, and telephones available to the great masses. Chemical engineering yielded new products for the rubber and clothing industry.

With the end of the war the Massachusetts industrial economy did not boom. The great textile centers of Lowell and Lawrence, unable to compete with the favorable conditions of the South, raise capital for modernization, or obtain the cheap labor it had before the immigration quotas, continued to decline. Union control of the shoe industry made the unrestricted states of New Hampshire, Missouri, and Illinois magnets for the flight of shoe manufacturer. While the electronic, rubber, and chemical industries made significant advances and the cotton textile and shoe manufacturing enterprises continued to decline, woolen textiles remained constant as Massachusetts was still the most efficient location for processing wool raised predominantly in New England.

Chelmsford was a direct reflection of this situation. Moore retooled the Baldwin Mills to deal exclusively with wool while United States Worsted Corporation expanded its facilities to become a small community in itself. Expansion in wool processing brought two new companies to North Chelmsford. In 1920 Lowell Textile Company established a small mill in Chelmsford in an attempt to offset the impending deficit from the cotton mills in Lowell. Similarly Southwell Wool Combing established a combing mill off Princeton Street.

While industrial profit was low and labor was poorly paid, the rising urban middle class prospered from the rocketing value of securities, stocks, and western investments. In the search for "summer cottages" and "picturesque camps," many vacationers purchased dwellings on Baptist Pond in South Chelmsford and in the heavily wooded sections of the East and West.

While the major industrial centers experienced a constant deterioration in the two most important Massachusetts industries, cotton textiles and shoes

Main Street Trolley enroute to Middlesex Street in Lowell.

in the twenties, these years were ones of constant prosperity and population increases for Chelmsford. As the population of the non-farm residents grew, service facilities such as filling stations, restaurants, and stores developed to provide the necessities and, in some cases, the luxuries in demand.

The Depression Years

The Great Depression in Massachsetts was a diverse and abstract phenomenon varying often quite radically from city to city. As the major Massachusetts industries did not experience the boom of the Twenties, the bust was much less dramatic and conclusive than in other parts of the country. While massive stock speculation had given many corporations artificially high values, textile and shoe stocks were generally valued at their worth if not less; thus

the loss to holders was minimal while to the companies it provided an air of stability which allowed many of them to modernize. On the other hand, many mills with subsidiaries in the South simply closed their northern factories to go south where labor at forty cents an hour allowed maximum yield.

Although there were some exceptions, the depression was most detrimental to the worker in labor-intensive industries such as textiles, shoes, and paper, and to their satellite industries. Unskilled laborers were by far the worst off since, for the most part, Massachusetts industries employed high skilled and semi-skilled labor in predominantly light industry. While some essential industries predominant in the South and West could dictate wages to the mass of unemployed, the technologically advanced Massachusetts industries required highly skilled labor which could be replaced only with great difficulty. In the semi-skilled and unskilled jobs (the textile, construction, paper, and shoe industries) wages dropped precipitously as factories folded and unemployment increased. Among the hardest hit areas of Massachusetts were the industrial centers including Lowell. Living conditions, however, were generally much better than in some other parts of the country as local, private, and church relief agencies provided immediate aid and the neighborhood or community offered assistance or emergency aid.

Chelmsford experienced very few of the effects of the depression because the bulk of its population lived and worked family farms or related businesses and presumably had few outstanding financial obligations. The Depression was little more than an enforced cut in their potential profit unlike the mortgage and bust of the mid-western large-scale farmer.

Even though the real estate valuations of the four mills in Chelmsford dropped in 1930 all four continued to function, thus preserving the livelihood of the workers. In reading the descriptions of the assets of each

factory one notes that they appear identical to those of 1925. Apparently real estate had been adjusted to decreased prices and wages, the buying power of the dollar had increased, or the town had undervalued the land in order to decrease the tax on the companies in order to retain them as sources of employment. Valuation in the cases of Baldwin Mills, United States Worsted, and Southwell dropped almost fifty percent, while the old Lowell Textile Company was devalued exceedingly as its ownership shifted to the Sugden Company.

Perhaps the most amazing factor in the depression era of Chelmsford was the fact that the town continued to grow. In 1935 the Chelmsford Ginger Ale Company, a subsidiary of Canada Dry as of 1925, was established on Littleton Road near the center of town after the original structure burned to the ground. By 1940 Meta Cameron had established a small mill, Edgar Dixon a machine and pattern shop on Middlesex Street, and William Procter, a lumber mill and kiln on Middlesex Street. The multimillion dollar United States Worsted Corporation, however, was no longer mentioned as taxable real estate in the 1935 or 1940 assessments as financial reverses had forced it to halt operations.

By 1940 several Chelmsford farms had begun to raise such increasingly strange livestock as mink, rabbit, and raccoon. This was due to an attempt to capture the supply market for the newly established Lawrence fur and leather producers who sought to supply the fashion centers with fur wraps for the new craze in pelts. Following suit the tax assessors began to record the numbers and types of all livestock as taxable commodities.

For Chelmsford the Great Depression demonstrates the final years of the town as a self-sufficient community amid the rubble of economic deterioration. As still a predominantly farm-based and typically close-knit New England com-

munity Chelmsford residents responded to the unavailability of jobs by returning to the family farms as they had in the depressions of the past. The town government aided the ailing textile industries of North Chelmsford to preserve the employment of some five hundred workers and dispensed community-sponsored aid to the impoverished.

World War II and Industrial Revitalization

World War II stimulated the sagging textile industry as well as encouraged extensive development in the chemical, electronic, and mechanical industries. In order to keep pace with the technologically superior Nazi war machine Congress funneled billions into the development and production of sophisticated weaponry. While many aircraft corporations sprang up in the West to produce the massive airborne armada of the allied forces, researchers at MIT and the technical institutes of the Northeast developed radar, improved engines, and produced new synthetic materials. The deteriorating textile industries of the Merrimack Valley and other areas began extensive production as war demand utilized every inch of cotton the country could produce. As was common throughout the country, the war mobilized every available worker for the war effort. During this period there was a shift of all unnecessary labor in Chelmsford to the munitions plants of Lowell as one thousand twelve hundred and nineteen Chelmsford men and women served in the armed forces.

As the war came to an end, however, the briefly stimulated textile mills throughout Massachusetts promptly collapsed as Southern mills produced plentiful cloth of superior quality at lower prices. Despite this inevitable conclusion to phase one of the New England industrial experience, the region never had such an opportunity for a new prosperity as it had in the post-war era. The advent of the arms race with the Soviet Union brought lucrative

defense contracts to Massachusetts electronics firms who alone possessed the technology to create sophisticated systems. The chemical and plastics industries, along with the development of synthetic metals, restored the technological edge of Massachusetts industries.

In assessing the potential for a revitalization of Massachusetts industry, Arthur D. Little, Incorporated, a Cambridge-based research and development firm, issued a survey of industrial opportunities in New England in August of 1952. The survey pointed out that Massachusetts, as a region, is almost entirely lacking in significant amounts of raw materials; the harshness of the climate makes transportation and plant maintenance quite expensive and the cost of fuel is prohibitively high. While these basic factors are extremely detrimental to New England as a potential site for industrial investment, Massachusetts had, as it does now, the most essential qualities for the development of low resource, high-technology industries. Among these qualities which caused the development of the electronic, plastics, and chemical industries during World War II, were a highly skilled labor force, the availability of highly advanced technological institutes to provide scientific and technical personnel, and access to a major point of distribution.

By 1952 Massachusetts firms controlled the plastic, fiberglass, and chemical industries while high technology electronics firms monopolized nuclear and defense production. For the first time since World War I Massachusetts prospered. High paying occupations in the leading industries encouraged a host of college-trained technicians and scientists to settle in the state, which in turn fostered the demand for increased housing and population-related services. A prolonged period of economic development and expansion followed.

In the outskirts of Boston, along the newly-created Route 128, the high

technology industries set up increasingly accessible factories to draw the automobile oriented workers from the city. The presence of Route 128 stimulated the development of suburban communities by providing fast and efficient road travel to the new factories where the highly paid white collar workers were employed. As this new highway network made the accessability from rural areas a reality, a new middle class sought to escape the alleged evils of the city. The housing boom was on.

Despite the several recessionary periods of the fifties and sixties, post-war expansion continued well into the sixties with increasingly lucrative defense contracts, the development of the computer industry, and above all else the space program.

Until World War II Chelmsford had remained relatively untouched by the influence of industrialization. The post-war era brought the town into the mainstream of the Massachusetts economy. In direct reflection of this post-war trend Chelmsford in the fifties experienced extensive housing and population growth, a reorientation of employment from the farms to industry and commerce, and a constant and rapid decline in the production and profit of the traditional textile industries. The Moore or Baldwin Mills on Middlesex and Princeton Streets, as well as the remainder of the smaller mills, collapsed in 1955 as the booming chemical industries created and marketed nylon shell and synthetic fibers to replace woolen garments. By 1960 Southwell Combing, the only remaining large mill in Chelmsford, had opened a nylon carding operation to offset its mounting deficit. While much of the industrial sector of North Chelmsford lay abandoned, the Alpha Development Corporation designed an industrial park on Billerica Road in East Chelmsford.

Alpha Industrial Park, one of Chelmsford's new industrial complexes.

Housing Industry Keeps Pace with Town Growth

While high-technology industry developed well in the seventies, the housing boom, inspired by the flight from the city and the growth of the average yearly income, was perhaps the most significant aspect of the expansion era. Chelmsford's suburbanization process began between 1955 and 1960 when the population increased from 11,749 to 15,130 people. At this time the building of some housing developments commenced. Records of building permits issued at this time show that three developments were started in 1959. They were Roberts Homes (dwellings constructed on Smith Street, Buckman Drive, and in the Boston Road area), Chelmsford Farms I (under the direction of Paul Campanelli) and Merrimack Homes, Incorporated (constructed in the Abbott Lane area).

Between 1960 and 1965 the population expanded from 15,130 to 23,040 people. During this same time span the two largest developments in the town were inaugurated. Both Hitchingpost Realty Corporation under builder Robert Hicks and Old Stage Estates by Paul Campanelli started construction in 1963. Other developments such as the Castlewood area (Roberts Homes, 1960). Merrimack Homes of the Arbutus Avenue area, and Chelmsford Farms II were also started in this period.

Although all this growth seems to have taken place randomly, there are elements of planning in the positioning of the housing developments. Chelmsford Farms I and Old Stage Estates were built primarily for the more transient people of the town employed by Hanscom Field or along Route 128. Similarly, the Hitchingpost complexes were planned in the same general area perhaps striving for a sense of architectural continuity.

The population of the town reached 31,749 in 1976. Chelmsford residents in the seventies are a broader cross section of ethnic and religious groups than the population of a century ago. However blacks and other non-whites still account for less than three percent of the total population.

Chelmsford today is one of the more densely populated towns in Massachusetts. It possesses many high-wage, stable, and intensive-labor industries and a large and highly skilled working population. Yet problems do exist. Large percentages of the population must commute for work at large corporations which may transfer them to a new community frequently, resulting in a somewhat transient population and a large degree of community anonymity.

Town Meeting Maintained for 300 Years

The basis of Chelmsford's town government in the seventies of the 20th century is the same as it was in the seventies of the 17th century. The New England town meeting is one of the only forms of pure democracy left in the

world. It owes its origins to "the Body of Liberties" which was a "body of laws compiled by the General Court of Massachusetts in 1641." The "Body of Liberties" provided that "Every man shall have liberty to come to any town meeting and either by speech or writing to move any lawful, reasonable, and material question." This form of government, with property and sex restrictions removed and the voting age lowered, has served Chelmsford well for over three hundred years.

The first act of this form of government is the election of town officials. This is now done by secret ballot prior to the first meeting. The second order of business is that of acting upon the articles in the Warrant. Articles are included "to make, amend, or repeal bylaws and zoning laws, appropriate money for annual town expenses..." and other similar forms of business.

Agenda items have changed over the town's history. Today's warrant articles may not include the setting of the minister's salary or whether to allow the swine to run loose, the issues of an earlier period. They now range from acting on a budget of over $12,000,000 to support the public schools of the community to solving the problems related to the quality of the environment. Unfortunately, only about 1% of the population and a small proportion of the registered voters attend town meeting sessions regularly. Nonetheless, great support continues for the open town meeting form of government in Chelmsford.

There have been some major managerial changes in providing services to over 31,000 residents of the community and in the day-to-day function of town government. Five selectmen supervise the public affairs of the community, issue licenses, negotiate contracts, and provide general administrative supervision for many town services. The town clerk, town treasurer, and other elected officials manage special town services.

Chelmsford's education system has also undergone many changes. In 1676

the town was fined by the Massachusetts General Court for not providing education for the children of the town. In 1716 the sole teacher employed by Chelmsford travelled to the different sections of the town and taught in four different private homes. The first school house was erected in 1718, but it was not until 1916 that Chelmsford built its first high school which is now known as McFarlin School. Today a five member elected school committee determines policy for the Chelmsford Public Schools, a school system that in 1976 educated 9,550 students.

Summary

The twentieth century has seen Chelmsford "come of age" as a town. It grew from a struggling agrarian community in 1900 to take a place of importance in the Massachusetts economy by 1970.

Chelmsford's amazing growth can generally be attributed to the post World War II era. Lucrative defense contracts and the space program combined to make high technology industries a profitable and fast-growing area. The coming of the highways coaxed workers out of the cities into "suburbia." The growing housing industry within Chelmsford transformed large farms and wooded areas into tracts of hundreds of homes, thus making Chelmsford a magnet for the typical well-paid engineer.

Most people will agree that Chelmsford will never experience this type of frantic growth again. It is safe to say that Chelmsford has reached its peak economically, industrially, and perhaps technologically.

Chelmsford today is a mature suburban community facing the continuing task of preserving and improving its quality of life.

V

A POSTSCRIPT

A Postscript

Before we close this brief history of our town let us look at what we have and where we can go in the future. Chelmsford is still an example of the hallmark of Yankee Culture, the basic right of all citizens to participate in town affairs. We as citizens must realize that we not only have a right but an obligation to speak our minds on the issues facing our town in the method prescribed by law. For if we do not, we may find that our democratic forms of government will become only a memory.

Another hidden strength of our town which must not be overlooked is the strength of the people, the organizations of men and women with political and non-political objectives working above and beyond the call of duty. These types of organizations not only tend to stave off the growing plague of anonymity and apathy within Chelmsford but also strengthen the town and make it a better place to live.

And so, in this complex world of fast paced technology and fast paced lives, let us strive to remember and learn from our rich and colorful heritage. If we can but do this, the proud statement of Daniel Webster about Massachusetts will need no change, "... Where American Liberty raised its first voice, and where its youth was nurtured and sustained, there it still lives, in the strength of its manhood and full of its original spirit."

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